

SURETECH

AC Current Sensors

Using Rogowski coil Technology

SURETECH AC Current sensors are available in various formats, including slip-on, or bar-primary. These sensors are available for single OR three phase measurements. The sensor uses Rogowski technology to measure AC currents. Rogowski technology does not respond to DC (zero output at zero frequency input), the sensors can be used to measure the AC component on a DC line. Care needs to be taken to specify frequencies being measured.

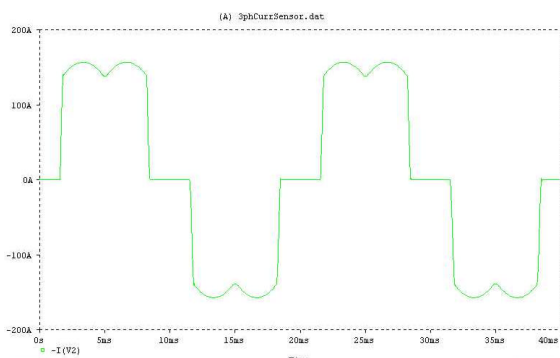
General Features:

- ✓ Can be used on cables with voltage less than 100Vac to tens of thousands of volts
- ✓ Cable ends are used with the cable's insulation in place to mount the slip-on sensor
- ✓ Split-core versions are available, but are often more expensive and less accurate
- ✓ Ultra linear measurement circuits for excellent accuracy
- ✓ For use on 50Hz and 60Hz systems
- ✓ Sensors are supplied with Rogowski signal conditioner
- ✓ Rogowski signal processor can be mounted on sensing coils, or a few metres away
- ✓ Filters can be included to control low frequency response.
- ✓ For high current DC systems, care needs to be taken in specifying filter / response requirements
- ✓ True RMS measurements can also be specified
- ✓ Sensors are polyurethane resin potted for long life, and stability
- ✓ Dimensions vary, depending on current levels
- ✓ Mounting options are various including, nylon screw fixing, foam, wood, plastic core
- ✓ Smart Load Processor (SLP) is available to perform various functions such as protection, indication, etc. including RS232 outputs
- ✓ SLP DIN rail clip on
- ✓ Transient suppression on input and outputs
- ✓ Wide selection of input and output options including relay, opto-isolated, analogue and RS232
- ✓ Wide selection of auxiliary power supply options
- ✓ Galvanic isolation from HV source
- ✓ Engineering backup to provide you support for design, applications information, installation & calibration, maintenance
- ✓ Patents pending



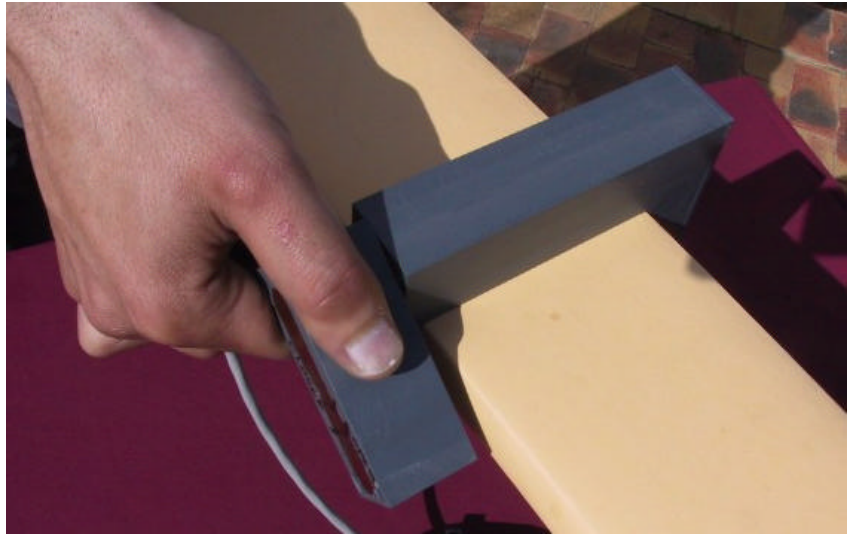
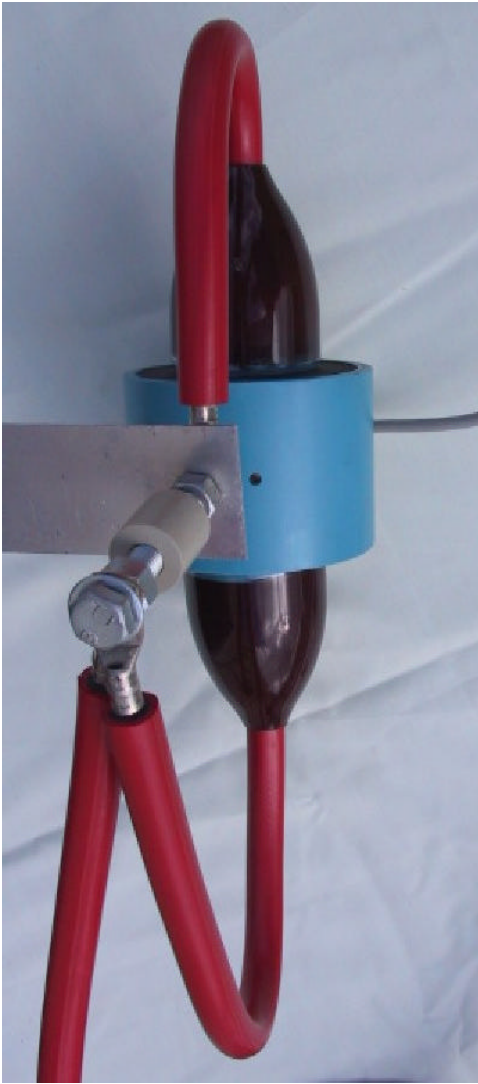
Configurations available:

- ✓ Configurations are determined by the end user
- ✓ Shown on the left is a Rogowski coil constructed to fit into limited space around the rectangular bus-bar
- ✓ Material types are chosen to meet the needs of temperature, vibration, shock, and other environmental requirements
- ✓ Split core or fixed core can be chosen, depending on a range of needs such as accuracy (fixed core has better accuracy); ease of installation; cost; etc.



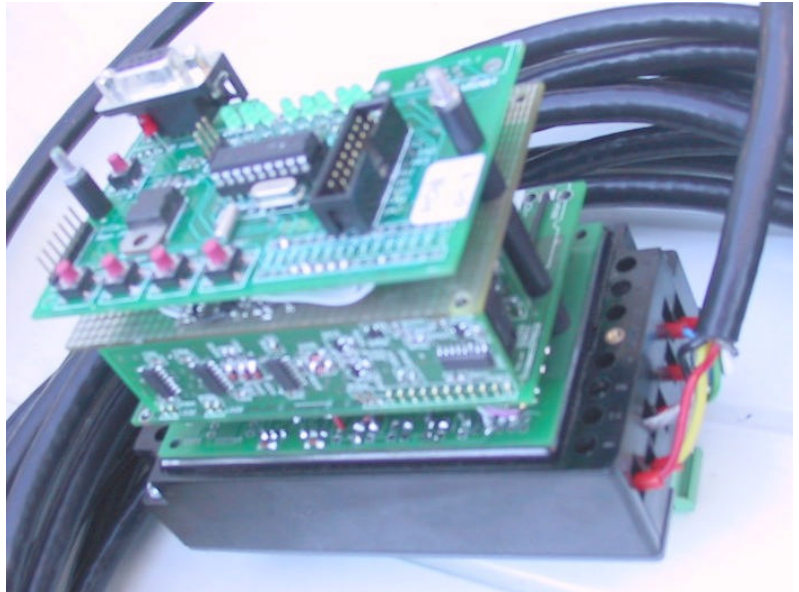
Rogowski can be used on DC applications

- ✓ Shown to the left is a current waveform of one phase of a three phase rectifier, indicating high frequency components
- ✓ Rogowski technology is wide bandwidth to cope with this
- ✓ Three Rogowski coils (or even one) can be used instead of a Hall Effect sensors on the DC side to measure DC current by measuring +ve and -ve pulses separately
- ✓ Each pulse is separately rectified using instrumentation electronics to determine DC current through each diode
- ✓ User can keep a watchful eye on power diodes, monitoring degradation through its life / temperature.



Optional RS232 Interface:

- Output from the sensors are fed by screened multi-core cable, to a junction box, and to the SLP (Smart Load Processor), where the user's required functionality is determined.
- Sensors are factory calibrated as indicated on the sensor's label
- After installation calibration can easily be re-done for in-situ fine tuning
- This is performed via RS232 port at the SLP. (The user does not need to re-enter the HV chamber)



Configuration options:

Feature	Range	Description
Current Inputs (Type: Rogowski "Air" cored sensor)	• 0-50A, 100A, 200A, 500A, 1kA, 2kA, 5kA, 10kA AC • Any others, please enquire	• PVC / poly-carbonate enclosed sensor • Frequency - 50 or 60 or 400Hz • Sensor accuracy after calibration: 0.5% • Bandwidth: 20Hz to 5kHz, or user specified • True RMS, average, peak, user specified • Mounted on cable insulation LV or MV • Withstand very high impulse levels • Power consumption <1VA • Temperature range: -10 to +60 degC
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Aux PSU (normally on SLP)	• 10-30Vdc • 30-90Vdc • 90V-260V ac/dc	



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